

Patent
Serial No. 10/614,411
Amendment in Reply to Office Action of November 2, 2005

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A record carrier suitable to be scanned by means of a single scanning head and provided with at least two substantially parallel information layers, ~~characterized in that wherein~~ each layer contains a only one block of control information including layer control information for controlling the scanning of ~~multiple~~ all other blocks of said layer.

2. (Currently amended) A record carrier, suitable to be scanned by means of a single scanning head and provided with at least two substantially parallel information layers, ~~characterized in that~~
~~wherein~~ each layer contains a only one block of control information including layer control information related to ~~multiple~~ all other blocks of said layer ~~characterized in that, and wherein~~ the control information blocks of different layers have substantially the same physical location in the plane of the different layers, to reduce displacement of the scanning head when sequentially reading the control information blocks of different layers.

3. (Currently amended) A record carrier suitable to be scanned by means of a single scanning head and provided with at least two substantially parallel information layers, ~~characterized in that~~
~~wherein~~ each layer contains a only one block of control information including layer control information related to ~~multiple~~

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| all other blocks of said layer, characterized in that and wherein
| tracks of user information in one of the layers is sequentially
| ordered in a given direction in the layer, and in that tracks of
| user information in another layer is sequentially ordered in the
| opposite direction.

4. (Currently amended) A record carrier suitable to be scanned by means of a single scanning head and provided with at least two substantially parallel information layers, characterized in that wherein each layer contains a only one block of control information including layer control information related to multiple all other blocks of said layer, characterized in that and wherein one of the control information blocks has an indication about the number of information layers in the record carrier.

5.. (Currently amended) A record carrier suitable to be scanned by means of a single scanning head and provided with at least two substantially parallel information layers, characterized in that wherein each layer contains a block of control information including layer control information related to multiple other blocks of said layer, characterized in that and wherein at least one of the control information blocks contains a sub-block having a global indication about the contents of the user information stored in another of the layers.

6. (Currently amended) A The record carrier as claimed in of claim 1, characterized in that said carrier is disc-shaped

7. (Currently amended) A The record carrier as claimed in of claim 1, characterized in that said carrier is an optical record carrier.

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8. (Currently amended) A scanning device for scanning a record carrier suitable to be scanned by means of a single scanning head and provided with at least two substantially parallel information layers, ~~characterized in that~~wherein each layer contains a only one block of control information including layer control information related to ~~multiple~~all other blocks of said layer, ~~characterized in that~~and wherein the device is provided with means for sequentially reading the blocks of control information before reading or writing user information.

9-14. (Canceled)

15. (Currently amended) A record carrier, comprising:
multiple substantially co-extending parallel information layers;

each layer including a user area formatted for user information and a control area formatted for control information including layer control information for controlling the scanning of the user information of only the layer containing the layer control information; the control area of at least one of the layers also being formatted for containing global control information for controlling the scanning of the user information of other information layers than the layer containing the global control information, ~~the control area of at least one of the layers not being formatted for containing any global control information for controlling the scanning the information of another information layer~~wherein the global control information contained in one layer includes an indication of the contents of the user information in another layer.

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16. (previously presented) The record carrier of claim 15, in which the global control information includes an indication of the number of layers of the record carrier.

17. (previously presented) The record carrier of claim 15, in which the user information areas of different layers have different formats and the global control information including an indication of the format of the different layers.

18. (Canceled)

19. (Previously presented) The record carrier of claim 15 in which the global control information includes information for regulating the position of a lens to control the position of a focus of a radiation beam on another information layer which is to be read, such control being effected by a servo-system based on the global control information.

20. (Previously presented) The record carrier of claim 15 wherein the control area for one of the layers is before the user information area and the control area for another of the layers is after the user information area in relation to the track-to-track direction in the layer in which tracks of user information are sequentially scanned.

21. (Currently amended) The record carrier of claim 15 adapted for reducing the access time to scan the user information from respective layers including:

each layer contains one area of control information formatted for containing all the layer control information required for scanning the layer;

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the one area of control information in each layer is proximate to the one area of control information contained in each of the other layers;

only one layer contains the one area of control information formatted for containing the global control information, and the one area of control information of that one layer includes control information for controlling the scanning the user information of all the layers; and

tracks of information in one of the layers are sequentially ordered in one forward track-to-track direction and tracks of information in each layer adjacent to the one layer are sequentially ordered in an opposite forward track-to-track direction, the area of control information being before any user information in the forward direction in the one layer and the area of control information being after all the user information in the forward direction in the adjacent layers.

22. (Currently amended) A scanning device, comprising:

a holder for a planar record carrier; and

a scanning head for scanning the record carrier placed in the holder, the record carrier having multiple substantially co-extensive parallel information layers, each layer containing a only one block formatted for containing control information including layer control information related to a multitude all of user information blocks of said layer,

for each layer, the scanning device being adapted for reading the layer control information of the layer before scanning the user information blocks of the layer.

23. (previously presented) A scanning device, comprising:

a holder for a planar record carrier; and

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a scanning head for scanning the record carrier placed in the holder with a radiation beam, the record carrier having multiple substantially co-extensive parallel information layers, each layer containing a block formatted for containing control information including layer control information related to a multitude of other blocks of said layer, one of the information layers having a control block formatted for containing global control information ~~for controlling the scanning including an indication of the contents of user information in another layer,~~

the scanning device being adapted for reading the global information from the one information layer prior to scanning the user information of any layer.

24. (Previously presented) The scanning device of claim 23 wherein:
the global information including an indication of which layer contains a portion of user information,

the scanning device further comprising a servo-system for adjusting the position of a focus of a radiation beam in a direction perpendicular to the plane of the record carrier for scanning different layers of the record carrier depending on the indication of which layer contains the portion of user information.

25. (Currently amended) A scanning device, comprising:
a holder for a planar record carrier; and
a scanning head for scanning the record carrier placed in the holder, the record carrier having multiple substantially co-extensive parallel information layers, each layer containing ~~a~~ only one block formatted for containing control information including layer control information related to ~~a multitude all~~ of user information blocks of said layer, the control information of each

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layer being at the same physical location in the plane of different layers,

the scanning device being adapted for reading the control information from the same physical location in the plane of each layer.

26. (Currently amended) A scanning device, comprising:

a holder for a planar record carrier; and

a scanning head for scanning the record carrier placed in the holder, the record carrier having multiple substantially co-extensive parallel information layers, each layer having ~~a multitude~~only one block formatted for containing control information including layer control information related to ~~a multitude~~all of user information blocks of said layer, the control information of each layer being at the same physical location in the plane of different layers, tracks of user information in one of the layers is sequentially scanned in a forward direction opposite to the forward direction that tracks of another of the layers is sequentially scanned.

the scanning device being adapted for reading the layer control information of both the one layer and the other layer before reading the user information of either layer, and sequentially scanning the tracks of user information of the one layer in a first forward direction and then scanning the tracks of user information of the other layer in a second forward direction that is opposite to the first forward direction.

27-28. (Canceled)

29. (New) The record carrier of claim 1, wherein a first layer of the at least two layers comprises user information in a first format and a second layer of the at least two layers comprises user

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information in a second format, the user information in the second layer including substantially the same contents as all the user information in the first layer.

30. (New) The record carrier of claim 29, wherein the second information layer further comprises user information also in a third format that is different than the second format.

31. (New) The record carrier of claim 29, wherein the second information layer comprises further user information having content that is not contained in the first information layer.

32. (New) The record carrier of claim 29, wherein the second format has a higher data density than the first format.

33. (New) The record carrier of claim 29, wherein the first format includes 16 bit encoding according to the CD audio standard and the second format includes 24 bit audio encoding.

34. (New) The record carrier of claim 29, wherein information is scanned in one layer in a phase structure and information is scanned in another layer in a magnetization structure.

35. (New) The record carrier of claim 1, in which the global control information contained in one layer of the at least two layers includes an indication of the contents of the user information in another layer.

36. (New) The record carrier of claim 2, in which the global control information contained in one layer of the at least two

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layers includes an indication of the contents of the user information in another layer.

37. (New) The record carrier of claim 15, in which the global control information contained in one layer of the at least two layers includes a table of contents of the user information in another layer.